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Examiner: D. Bonderer
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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An implantable spinal cross-connector, comprising:

a central portion with at least one connector member formed on a terminal end thereof, the at least one connector member having

first and second opposed jaws, at least one of the jaws being selectively movable between a first, open position wherein the first and second jaws are positioned a distance apart from one another, and a second, closed position, wherein the first and second jaws are adapted to engage a spinal fixation element therebetween, and at least one of the jaws being integrally formed with the central portion, and

a locking mechanism having a shank that is receivable within a non-expandable bore formed in the connector member, the locking mechanism being adapted to come into contact with each of the first and second jaws to selectively lock at least one of the first and second jaws in a fixed position.

2. (Original) The implantable spinal cross-connector of claim 1, wherein the locking mechanism includes a non-eccentric head formed on a proximal end of the shaft.

3. (Original) The implantable spinal cross-connector of claim 2, wherein the non-expandable bore formed in the at least one connector member includes an enlarged proximal opening that is adapted to seat a non-eccentric head of the locking mechanism.

4. (Original) The implantable spinal cross-connector of claim 3, wherein the second jaw on the at least one connector member is pivotally mated to the first jaw, and wherein the non-eccentric head of the locking mechanism is effective to move the second jaw from the open position to the closed position when the head is disposed within the enlarged proximal opening of the non-expandable bore.

5. (Original) The implantable spinal cross-connector of claim 1, wherein the shank on the locking mechanism and the non-expandable bore include complementary threads formed thereon.

6. (Original) The implantable spinal cross-connector of claim 1, wherein the locking

mechanism is adapted to pull the first and second jaws toward one another into the second, closed position when the locking mechanism is advanced into the non-expandable bore.

7. (Withdrawn) The implantable spinal cross-connector of claim 1, wherein the locking mechanism is adapted to push the second jaw toward the first jaw into the second, closed position when the locking mechanism is advanced into the non-expandable bore.

8. (Original) The implantable spinal cross-connector of claim 1, wherein the first and second jaws define a substantially C-shaped recess therebetween.

9. (Original) The implantable spinal cross-connector of claim 1, wherein the first and second jaws include a slot formed therebetween and adapted to allow movement of the first and second jaws between the first, open position and the second, closed position.

10. (Original) The implantable spinal cross-connector of claim 9, wherein the non-expandable bore extends through the first and second jaws across the slot such that the locking mechanism is effective to close the slot when the locking mechanism is advanced into the non-expandable bore, thereby moving the first and second jaws from the first, open position to the second, closed position.

11. (Original) The implantable spinal cross-connector of claim 10, wherein the non-expandable bore includes a non-threaded portion formed in the first jaw and a threaded portion formed in the second jaw, and wherein the shank of the locking mechanism includes a non-threaded proximal portion that is adapted to sit within the non-threaded portion of the non-expandable bore formed in the first jaw, and a threaded distal portion that is effective to mate with the threaded portion of the non-expandable bore formed in the second jaw.

12. (Original) The implantable spinal cross-connector of claim 11, wherein the non-threaded proximal portion of the shank of the locking mechanism further includes a head formed thereon that is receivable within an enlarged opening of the non-expandable bore formed in the first jaw.

13. (Original) The implantable spinal cross-connector of claim 1, wherein the first jaw is

integrally formed with the at least one connector, and wherein the second jaw is independent from and pivotally mated to the first jaw.

14. (Withdrawn) The implantable spinal cross-connector of claim 13, further comprising a pivot pin extending through the first and second jaws to allow pivotal movement of the second jaw with respect to the first jaw.

15. (Original) The implantable spinal cross-connector of claim 13, wherein the locking mechanism includes a head formed on the shank that is receivable within an enlarged opening formed in the non-expandable bore, and wherein the head is adapted to pivotally move the second jaw from the first, open position to the second, closed position when the locking mechanism is disposed within the non-expandable bore and the head is disposed within the enlarged opening.

16. (Original) The implantable spinal cross-connector of claim 13, wherein the non-expandable bore is formed in the first jaw and it includes an enlarged opening formed therein for seating a head formed on the shank of the locking mechanism, the enlarged opening being formed adjacent to the second jaw such that the head of the locking mechanism is effective to pivot the second jaw into the second, closed position when the head is disposed within the enlarged opening.

17. (Original) The implantable spinal cross-connector of claim 16, wherein the non-expandable bore is threaded and the locking mechanism comprises a set screw having a threaded shank.

18. (Original) The implantable spinal cross-connector of claim 1, wherein the central portion comprises a substantially elongate member having an adjustable length.

19. (Original) The implantable spinal cross-connector of claim 18, wherein the substantially elongate member is formed from first and second transverse members that are slidably matable to one another.

20. (Original) The implantable spinal cross-connector of claim 19, wherein the first transverse member includes a female mating element, and the second transverse member includes a male

mating element that is adapted to be received by the female mating element.

21. (Original) The implantable spinal cross-connector of claim 20, further comprising a central locking mechanism for locking the first and second transverse members at a fixed position with respect to one another.

22. (Original) The implantable spinal cross-connector of claim 19, wherein the first and second transverse members are angularly adjustable with respect to one another along a longitudinal axis of the spinal cross-connector.

23. (Original) The implantable spinal cross-connector of claim 22, wherein the first and second transverse members can be positioned at an angle of about 20° with respect to the longitudinal axis of the spinal cross-connector.

24. (Original) The implantable spinal cross-connector of claim 22, further comprising a central locking mechanism coupled to the first and second transverse members for allowing the first and second transverse members to be locked in a fixed position with respect to one another.

25. (Original) The implantable spinal cross-connector of claim 1, wherein the central portion includes first and second transverse members that are connected to one another by a central clamp that allows angular adjustment of the first and second transverse members with respect to one another along a longitudinal axis of the spinal cross-connector.

26. (Original) The implantable spinal cross-connector of claim 25, further comprising a central locking mechanism formed in the central clamp for locking the first and second transverse members in a fixed position with respect to one another.

27. (Original) The implantable spinal cross-connector of claim 26, wherein the central locking mechanism extends through the central clamp and each of the first and second transverse members, and wherein the locking mechanism is adapted to engage and close the central clamp, thereby locking the first and second transverse members therebetween.

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28. (Original) The implantable spinal cross-connector of claim 1, wherein the at least one connector member is angularly adjustable with respect to the central portion.

29. (Original) The implantable spinal cross-connector of claim 28, wherein the at least one connector member includes a bend zone formed between the connector member and the central portion to allow angular movement of the connector member with respect to the central portion.

30. (Original) The implantable spinal cross-connector of claim 1, further comprising first and second connector members formed on opposed terminal ends of the central portion, and wherein the central portion includes a bend zone formed at a substantial mid-point thereof for allowing angular movement of each connector member with respect to the central portion.

31. (Original) The implantable spinal cross-connector of claim 1, wherein the first and second jaws each include a clamping surface formed thereon that is adapted to seat a spinal rod therebetween.

32. (Original) The implantable spinal cross-connector of claim 31, wherein the clamping surface of at least one of the first and second jaws includes at least one surface feature formed thereon to facilitate engagement of a rod between the first and second jaws.

33. (Original) The implantable spinal cross-connector of claim 32, wherein the surface feature comprises a series of ridges formed on the clamping surface.

34. (Original) The implantable spinal cross-connector of claim 1, wherein the central portion comprises first and second transverse members that are movable between an open position, in which the first and second transverse members are substantially longitudinally aligned with one another, and a second position, in which the first and second transverse members are positioned at an angle with respect to one another.

35. (Withdrawn) The implantable spinal cross-connector of claim 34, wherein the first and

second members are biased to the second position.

36. (Original) The implantable spinal cross-connector of claim 1, wherein the spinal fixation element comprises a spinal rod.

37. (Original) An implantable spinal cross-connector, comprising:

at least one connector member having first and second opposed jaws that are biased to an open position, in which at least a portion of the first and second jaws are spaced apart from one another; and

a locking mechanism effective to engage at least one of the first and second jaws to move the jaws toward one another into a closed position, in which the jaws are effective to engage a spinal fixation element therebetween.

38. (Original) The implantable spinal cross-connector of claim 37, further comprising a bore formed in the first and second opposed jaws for receiving the locking mechanism.

39. (Original) The implantable spinal cross-connector of claim 38, wherein the first and second opposed jaws are at least partially separated by an elongate slot, and wherein the bore extends across the elongate slot.

40. (Original) The implantable spinal cross-connector of claim 39, wherein the locking mechanism comprises a threaded member, and wherein a portion of the bore formed in the second jaw is threaded to mate with the threaded member such that the locking mechanism is effective to move at least one of the first and second jaws toward one another to lock the jaws in the closed position.

41. (Currently Amended) A spinal rod and connector system, comprising:

at least one spinal rod;

a spinal cross-connector having

at least one connector member formed thereon and including first and second opposed jaws that are movable between an open position and a closed position in which the jaws are

adapted to engage said spinal rod, at least one of the first and second jaws being integrally formed with the connector member, and

a locking mechanism having a head and a shank that are receivable with a bore extending through at least one of the first and second jaws, the bore having a proximal, head-receiving portion for seating the head of the locking mechanism, and a distal, shank-engaging portion for mating with the shank of the locking mechanism such that the locking mechanism is effective to lock the first and second jaws in the closed position.

42. (Original) The spinal rod and connector system of claim 41, wherein the second jaw on the at least one connector member is pivotally mated to the first jaw, and wherein the head of the locking mechanism is effective to move the second jaw from the open position to the closed position when the head is disposed within the proximal, head-receiving portion of the bore.

43. (Original) The spinal rod and connector system of claim 41, wherein the shank on the locking mechanism and the distal, shank-engaging portion of the bore include complementary threads formed thereon.

44. (Original) The spinal rod and connector system of claim 41, wherein the locking mechanism is adapted to pull the first and second jaws toward one another into the closed position when the locking mechanism is advanced into the bore.

45. (Original) The spinal rod and connector system of claim 41, wherein the locking mechanism is adapted to push the second jaw toward the first jaw into the closed position when the locking mechanism is advanced into the non-expandable bore.

46. (Original) The spinal rod and connector system of claim 41, wherein the first and second jaws include a slot formed therebetween, and wherein the bore extends through the first and second jaws across the slot such that the locking mechanism is effective to close the slot when the locking mechanism is advanced into the bore, thereby moving the first and second jaws from the open position to the closed position.

47. (Original) The spinal rod and connector system of claim 41, wherein the first jaw is integrally formed with the at least one connector, and wherein the second jaw is independent from and pivotally mated to the first jaw.

48. (Original) The spinal rod and connector system of claim 47, wherein the head on the locking mechanism is adapted to pivotally move the second jaw from the open position to the closed position when the locking mechanism is disposed within the bore.

49. (Original) The spinal rod and connector system of claim 41, further comprising first and second connector members that are coupled to one another by a central portion.

50. (Original) The spinal rod and connector system of claim 49, further comprising at least one bend zone formed in the central portion to allow the connector members to be positioned at an angle with respect to one another.